# 1: Introduction

### Welcome to Galactic Software LLC

### Agenda and Objectives

### Why Learn C Programming

# 2: What is C Programming

### A Brief History of C

### Key Features of C

### C in Today's Software Development

# 3: Setting Up Your Development Environment

### Installing a C Compiler

### Choosing a Code Editor

### Writing Your First C Program

# 4: Basic Syntax and Structure

### C Language Basics

### Comments and Formatting

### Compiling and Running Programs

# 5: Variables and Data Types

### Declaring Variables

### Fundamental Data Types

### Constants in C

# 6: Operators and Expressions

### Arithmetic Operators

### Relational Operators

### Logical Operators

# 7: Control Statements (Part 1)

### Conditional Statements (if, else if, else)

### Switch-Case Statements

### Examples and Best Practices

# 8: Control Statements (Part 2)

### Looping with while, do-while, and for

### Loop Control Statements (break, continue)

### Practical Looping Examples

# 9: Functions and Modular Programming

### Functions in C

### Function Prototypes

### Organizing Code with Functions

# 10: Arrays and Strings

### Declaring and Initializing Arrays

### Working with Strings

### Common String Functions

# 11: Pointers and Memory Management

### Understanding Pointers

### Dynamic Memory Allocation

### Pointer Arithmetic

# 12: Structures and Unions

### Defining Structures

### Accessing Structure Members

### Unions and Their Uses

# 13: File Handling in C

### Working with Files

### Input and Output Operations

### Error Handling

# 14: Preprocessor Directives

### Macros and #define

### Conditional Compilation

### Practical Uses of Preprocessing

# 15: Debugging and Troubleshooting

### Common C Programming Errors

### Debugging Tools and Techniques

### Tips for Efficient Debugging

# 16: Coding Standards and Best Practices

### Consistency in Coding

### Documentation and Comments

### Code Review Guidelines

# 17: C Programming in Real-World Applications

### Overview of Real-World Projects

### The Role of C in Galactic Software LLC's Projects

### Career Paths for C Programmers

# 18: Q&A and Discussion

### Open Floor for Questions

### Sharing Experiences and Insights

### Resources for Further Learning

# 19: Conclusion and Next Steps

### Key Takeaways

### Continuing Your C Programming Journey

### Thank You and Good Luck!

# 20: Contact Information

### Contact Details for Further Assistance

### Stay Connected with Galactic Software LLC

### Feedback and Evaluation